

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the present application:

Listing of Claims:

1. (previously presented) A dumping station for use in a stock order filling system, the dumping station comprising:

a collection area including a conveyor;

a bin disposed adjacent the conveyor, the bin having a receiving end, a discharge end, and an opening extending between the receiving end and the discharge end, the receiving end of the opening adapted to receive articles, the bin having a dump mode, in which articles in the bin are discharged from the discharge end of the opening onto the collection area, and a pick mode, in which the articles are retained in the receiving end of the bin, the bin being biased under force of gravity toward the dump mode, the bin being rotatable about an axis, the bin having a center of gravity laterally offset from the axis toward the discharge end;

an electronically controllable releasable latch selectively engageable with the bin, the latch selectively securing the bin in the pick mode against the force of gravity, the latch being responsive to a release signal to release the bin; and

a controller operably coupled to the latch and having a processor programmed to generate the release signal to release the latch, wherein upon the latch releasing the bin, the bin automatically switches from the pick mode to the dump mode under the force of gravity by rotating about the axis thereby to discharge the articles in the bin directly onto the conveyor;

wherein the processor is programmed to generate the release signal as a selected area of the conveyor passes the dumping station.

2. (original) The dumping station of claim 1, in which the releasable latch comprises an electromagnet.

3. (original) The dumping station of claim 1, in which the processor is programmed to assign pick orders to the dumping station.

4. (canceled)

5. (previously presented) The dumping station of claim 1, further comprising a lid attached to the receiving end of the bin, the lid being movable between an active position away from the opening, to provide a visual indication that more articles are to be placed in the bin, and an inactive position covering at least a portion of the opening, to provide a visual indication that no more articles are to be placed in the bin.

6. (previously presented) The dumping station of claim 1, further comprising a support shaft, wherein the bin is pivotably mounted on the support shaft, the bin having a center of gravity laterally offset from the support shaft so that the bin is biased to a dump position corresponding to the bin dump mode, the bin being rotatable to a pick position corresponding to the bin pick mode.

7. (original) The dumping station of claim 6, in which a weight is attached to the bin near the discharge end to laterally shift the center of gravity of the bin toward the discharge end.

8. (original) The dumping station of claim 6, further comprising a dump pedestal positioned to engage the bin in the dump position, and a pick pedestal positioned to engage the bin in the pick position, the pick pedestal carrying the releasable latch.

9. (original) The dumping station of claim 8, in which the dump pedestal is oriented to direct articles onto the collection area.

10-13. (canceled)

14. (original) The dumping station of claim 1, in which the bin is manually placed in the pick mode.

15. (previously presented) A dumping station for use in a stock order filling system having a collection area, the dumping station depositing articles onto the collection area, the dumping station comprising:

a stationary support permanently fixed against displacement relative to the collection area;

a bin hingedly mounted to the stationary support for rotational motion relative to the stationary support, the bin comprising a receiving end, a discharge end, an opening extending between the receiving end and the discharge end, and a center of gravity laterally offset from the stationary support toward the discharge end to bias the bin under force of gravity toward a dump position, in which the discharge end is proximal to the collection area and articles placed in the bin exit the discharge end of the opening of the bin;

a releasable latch positioned to hold the bin against the force of gravity when manually placed in a pick position, in which articles placed in the receiving end of the bin remain in the article receiving end of the bin, the latch being releasable to allow the bin to pivot back toward the dump position, the latch being responsive to a release signal to release the bin; and

a controller operably coupled to the latch and having a processor programmed to generate the release signal to release the latch, wherein the bin automatically moves from the pick position to the dump position under the force of gravity thereby to discharge articles from the discharge end of the opening of the bin onto the collection area.

16. (original) The dumping station of claim 15, in which the releasable latch comprises an electromagnet.

17. (original) The dumping station of claim 15, further comprising a dump pedestal positioned to engage the bin discharge end in the dump position, and a pick pedestal positioned to engage the bin in the pick position, wherein the pick pedestal carries the releasable latch.

18. (original) The dumping station of claim 17, in which the dumping pedestal is oriented to direct articles onto the collection area.

19. (original) The dumping station of claim 15, in which the processor is programmed to assign pick orders to the dumping station.

20. (previously presented) The dumping station of claim 15, in which the is programmed to generate the release signal as a selected area of the conveyor passes the dumping station.

21. (original) The dumping station of claim 15, in which the support is positioned below the bin.

22. (original) The dumping station of claim 15, in which a weight is attached to the bin near the discharge end to laterally shift the center of gravity of the bin toward the discharge end.

23. (previously presented) The dumping station of claim 15, further comprising a lid attached to the receiving end of the bin, the lid being manually movable between an active position away from the opening, to provide a visual indication that more articles are to be placed in the bin, and an inactive position covering at least a portion of the opening, to provide a visual indication that no more articles are to be placed in the bin.

24 - 38. (canceled).

39. (previously presented) A dumping system for use in a stock order filling system having a collection area, the dumping system comprising:

a first bin having a receiving end, a discharge end, and an opening extending between the receiving end and the discharge end, the receiving end of the opening adapted to receive a first set of articles, the first bin having a dump mode, in which the first set of articles in the first bin are discharged from the discharge end of the opening onto the collection area, and a pick mode, in which the first set of articles are retained in the first bin, the first bin being biased under force of gravity toward the dump mode;

a first releasable latch positioned to retain the first bin in the pick mode against the force of gravity, the first releasable latch being responsive to a first release signal to release the first bin;

a second bin having a receiving end, a discharge end, and an opening extending between the receiving end and the discharge end, the receiving end of the opening adapted to receive a second set of articles, the second bin having a dump mode, in which the second set of articles in the second bin are discharged from the discharge end of the opening onto the collection area, and a pick mode, in which the second set of articles are retained in the second bin, the second bin being biased under force of gravity toward the dump mode;

a second releasable latch positioned to retain the second bin in the pick mode against the force of gravity, the second releasable latch being responsive to a second release signal to release the second bin; and

a controller operably coupled to the first latch and the second latch and having a processor programmed to generate the first release signal to release the first latch and the second release signal to release the second latch, wherein the first bin and the second bin automatically switch from the pick mode to the dump mode under the force of gravity thereby to discharge the first set of articles in the first bin and the second set of articles in the second bin onto the collection area;

wherein the collection area comprises a conveyor, and the processor is programmed to generate the first release signal as a selected area of the conveyor passes the first bin to dump the first set of articles onto the selected area and is programmed to generate the second release signal as the selected area of the conveyor passes the second bin to dump the second set of articles onto the selected area.

40. (withdrawn) The dumping station of claim 1, further comprising a storage rack disposed adjacent to the bin.

41. (withdrawn) The dumping station of claim 40, wherein the storage rack includes an indicator.

42. (withdrawn) The dumping station of claim 41, wherein the controller is operably coupled to the indicator, wherein the controller directs the indicator to indicate the articles to be picked from the shelf section.

43. (previously presented) A dumping station for use in a stock order filling system, the dumping station comprising:

a conveyor;

a stationary support permanently fixed against displacement relative to the conveyor;

a bin pivotably supported on top of the stationary support, the bin comprising a bottom wall, a rear wall fixed to the bottom wall, opposing sidewalls fixed to the bottom and rear walls, an open top, and an open front,

the bin pivotable relative to the conveyor between a pick mode for receiving articles through the open top, and wherein a first portion of the bottom wall that is located adjacent the open front is disposed above a second portion of the bottom wall that is located adjacent the rear wall, and a dump mode for discharging articles through the open front, and wherein the second portion of the bottom wall is positioned above the first portion of the bottom wall;

a releasable latch selectively engageable with the bin, the latch selectively securing the bin in the pick mode against the force of gravity, the latch being responsive to a release signal to release the bin; and

a controller operably coupled to the latch and having a processor programmed to generate the release signal to release the latch, wherein upon the latch releasing the bin, the bin automatically switches from the pick mode to the dump mode under the force of gravity.